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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/118,234	07/17/1998	RUDI MAYER	10191/789	8795

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EXAMINER	
TANG, KENNETH	

ART UNIT	PAPER NUMBER
2127	

DATE MAILED: 09/21/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/118,234	MAYER ET AL.0101	
	Examiner	Art Unit	
	Kenneth Tang	2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the Amendment on 5/27/04. Applicant's arguments have been fully considered but are not found to be persuasive.

2. Claims 1-14 are subject to examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7 and 9-14 are rejected under 35 U.S.C. 102(b) as being unpatentable by Terada et al. (hereinafter Terada) (US 5,561,742).

4. As to claims 1 and 10, Terada teaches a control unit for a system and a method of operating that control unit, having a plurality of activatable modules for generating information as a function of at least one of a plurality of states of the system, comprising:

- a first storage device for storing information relating to a mutual interference of the modules *(the information of the equation for determining mutual interference is "Ya(max)'-Yb(min)'<d" and stored, col. 7, line 61, and col. 6, lines 15-21, "Interference Prevention method", see Title)*;

- a second storage device for storing state information regarding the modules, the state information indicating which of the modules are currently activated *("It is judged whether the following equation (2) is established by using the equation (1) on the basis of the maximum value Ya(max)' of the spatial region thus estimated, and a minimum value Yb(min)' of the current spatial region of the robot B, which is transmitted from the controller C3 of the robot B and stored in the memory means of the controller C2 of the robot A .", col. 7, lines 53-60).*
- a scheduler for activating at least one of the modules and determining as a function of the information stored in the first storage device and the state information stored in the second storage device whether mutual interference occurs if an additional module is activated, wherein the scheduler prevents a simultaneous activation of modules that interfere with each other *("The robot receiving the data on a maintained spatial region determines whether or not the spatial region crosses the spatial region of the transmitting-side robot, and it is determined whether it is ensured that both robots have no interference with each other. If the receiving-side robot finds that the spatial region of the receiving- side robot crosses the spatial region of the transmitting-side robot, the receiving-side robot is stopped operating, and is controlled so as to be kept in a waiting state until tire spatial region of the receiving-side robot is moved depending on the operation of the transmitting-side robot, so that the spatial regions of both robots do not cross each other.", col. 2, lines 42-53, and Fig. 5, items S1-S6).*

5. As to claims 2 and 11, Terada teaches the claimed invention wherein the system includes one of a motor vehicle, an engine, and a transmission *("motor", col. 6, line 44)*.

6. As to claims 3 and 12, Terada teaches wherein the scheduler prevents the simultaneous activation of modules that interfere with each other by preventing an activation of the additional module (see rejection of claim 1). Modules will not get activated unless it satisfies the condition/equation for interference.

7. As to claims 4 and 13, Terada teaches wherein the scheduler prevents simultaneous activation of modules that interfere with each other by interrupting an activated module *("interrupted", col. 7, line 35)*.

8. As to claims 5 and 6, Terada teaches wherein the first storage device stores information regarding which modules interfere with one another when they are simultaneously activated (see rejection of claim 1). Modules will not get activated unless it satisfies the condition/equation for interference and all data state information is stored in memory.

9. As to claims 7 and 14, Terada teaches wherein each one of the modules and the scheduler includes a program to be processed by a microprocessor *("CPU", Fig. 4, item 10)*.

10. As to claim 9, Terada teaches wherein one of a set of functions appearing to a user as one unit and another set of functions being used to control a uniform function is divided into the

modules and are managed separately by the scheduler *("The robot receiving the data on a maintained spatial region determines whether or not the spatial region crosses the spatial region of the transmitting-side robot, and it is determined whether it is ensured that both robots have no interference with each other. If the receiving-side robot finds that the spatial region of the receiving- side robot crosses the spatial region of the transmitting-side robot, the receiving-side robot is stopped operating, and is controlled so as to be kept in a waiting state until tire spatial region of the receiving-side robot is moved depending on the operation of the transmitting-side robot, so that the spatial regions of both robots do not cross each other.", col. 2, lines 42-53, and Fig. 5, items S1-S6).*

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being obvious over Terada et al. (hereinafter Terada) (US 5,561,742).

12. As to claim 8, Terada fails to explicitly teach wherein each one of the first storage device and the second storage device includes one of a plurality of tables and a plurality of matrices. However, "Official Notice" is taken that both the concept and advantages of providing that memory can be a plurality of data tables and matrices. It is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a plurality of data tables and matrices to the existing system for the reason of increasing control and organization by providing data structure.

Response to Arguments

13. Applicants argue (on pages 5-6) that Terada fails to explicitly teach state information indicating which of the modules are currently activated.

In response, the Examiner respectfully disagrees. Col. 7, line 61 teaches the storage device storing the interference condition (a state). Col. 6, lines 49-col. 7, line 59 teaches the storage device having the current conditions (states) of both robots (modules). Col. 2, lines 42-53 teaches the selectively activating the next robot (module) from a waiting state to an active state if there is no conflict with other robots based upon the interference condition (a state) and current conditions (states) thereof.

14. Applicant argues (on page 6) with respects to claim 2, that a servo motor does not suggest a motor vehicle.

In response, the Examiner respectfully disagrees. A vehicle is merely a medium through which something is accomplished (as defined in Dictionary.com). In addition, servo motors are used in radio controlled airplanes and cars, as well as robots.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kt
9/15/04

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